

jc929 U.S. Pro
09/805455
03/14/01



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: GAN et al

Art Unit:

Serial No. To Be Assigned

Examiner:

Filed: March 14, 2001

Atty. Docket: CL0001165

For: ISOLATED HUMAN RAS-LIKE
PROTEINS, NUCLEIC ACID MOLECULES
ENCODING THESE HUMAN RAS-LIKE
PROTEINS, AND USES THEREOF

**SUBMISSION OF SEQUENCE LISTING
UNDER 37 C.F.R. § 1.821(a)**

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sir:

In compliance with 37 C.F.R. § 1.821(a), applicants submit the Sequence Listing,
including the paper copy of the Sequence Listing and the computer readable copy of the
Sequence Listing.

In the Specification:

The Sequence Listing is provided on pages 56-72 of the specification in the
above-identified application.

REMARKS

In accordance with 37 C.F.R. § 1.821(f), the paper copy of the Sequence Listing and the computer readable copy of the Sequence Listing submitted herewith in the above application are the same.

It is respectfully believed that this application complies with the Sequence Listing requirements and is now in condition for processing.

Respectfully submitted,

CELERA GENOMICS

By: 

Justin D. Karjalainen
Reg. No. 43,704

Date: March 14, 2001 _____

Celera Genomics Corporation
45 West Gude Drive, C2-4#20
Rockville, MD 20850
Tel: 240-453-3067
Fax: 240-453-3084

CL001165

SEQUENCE LISTING

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NUCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE
PROTEINS, AND USES THEREOF

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Asp Tyr His Ser Phe Val Thr His Gly Cys Thr Val Asp Asn Pro Val		
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Tyr Arg Arg Arg Leu Ala Ala Cys Val Gly Phe Arg Phe Pro Ile Leu		
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 Asp Ser Val Pro Thr Tyr Lys Trp Lys Arg Gln Val Thr Gln Arg Asn
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 Pro Val Gly Gln Lys Lys Arg Lys Met Ser Leu Leu Phe Asp His Leu
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 Glu Pro Met Glu Leu Ala Glu His Leu Thr Tyr Leu Glu Tyr Arg Ser
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 Thr His Phe Val His Val Ala Glu Lys Leu Leu Gln Leu Gln Asn Phe
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 Asn Thr Leu Met Ala Val Val Gly Gly Leu Ser His Ser Ser Ile Ser
 245 250 255
 Arg Leu Lys Glu Thr His Ser His Val Ser Pro Asp Thr Ile Lys Leu
 260 265 270
 Trp Glu Gly Leu Thr Glu Leu Val Thr Ala Thr Gly Asn Tyr Ser Asn
 275 280 285
 Tyr Arg Arg Arg Leu Ala Ala Cys Val Gly Phe Arg Phe Pro Ile Leu
 290 295 300
 Gly Val His Leu Lys Asp Leu Val Ala Leu Gln Leu Ala Leu Pro Asp
 305 310 315 320
 Trp Leu Asp Pro Gly Arg Thr Arg Leu Asn Gly Ala Lys Met Arg Gln
 325 330 335
 Leu Phe Ser Ile Leu Glu Leu Ala Met Val Thr Ser Leu Arg Pro
 340 345 350
 Pro Val Gln Ala Asn Pro Asp Leu Leu Ser Leu Leu Thr Val Ser Leu
 355 360 365
 Asp Gln Tyr Gln Thr Glu Asp Glu Leu Tyr Gln Leu Ser Leu Gln Arg
 370 375 380
 Glu Pro Arg Ser Lys Ser Ser Pro Thr Ser Pro Thr Ser Cys Thr Pro
 385 390 395 400
 Pro Pro Arg Pro Pro Val Leu Glu Glu Trp Thr Ser Val Ala Lys Pro
 405 410 415
 Lys Leu Asp Gln Ala Leu Val Ala Glu His Ile Glu Lys Met Val Glu

420	425	430
Ser Val Phe Arg Asn Phe Asp Val Asp Gly Asp Gly His Ile Ser Gln		
435	440	445
Glu Glu Phe Gln Ile Ile Arg Gly Asn Phe Pro Tyr Leu Ser Ala Phe		
450	455	460
Gly Asp Leu Asp Gln Asn Gln Asp Gly Cys Ile Ser Arg Glu Glu Met		
465	470	475
Ile Ser Tyr Phe Leu Arg Ser Ser Val Leu Gly Gly Arg Met Gly		
485	490	495
Phe Val His Asn Phe Gln Glu Ser Asn Ser Leu Arg Pro Val Ala Cys		
500	505	510
Arg His Cys Lys Ala Leu Ile Leu Gly Ile Tyr Lys Gln Gly Leu Lys		
515	520	525
Cys Arg Ala Cys Gly Val Asn Cys His Lys Gln Cys Lys Asp Arg Leu		
530	535	540
Ser Val Glu Cys Arg Arg Ala Gln Ser Val Ser Leu Glu Gly Ser		
545	550	555
Ala Pro Ser Pro Ser Pro Thr His Thr His Arg Ala Phe Ser Phe		
565	570	575
Ser Leu Pro Arg Pro Gly Arg Arg Ser Ser Arg Pro Pro Glu Ile Arg		
580	585	590
Glu Glu Glu Val Gln Thr Val Glu Asp Gly Val Phe Asp Ile His Leu		
595	600	605

<210> 7
<211> 591
<212> PRT
<213> Human

<400> 7			
Gly Ser Ser Gly Leu Gly Lys Ala Ala Thr Leu Asp Glu Leu Leu Cys			
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Thr Cys Ile Glu Met Phe Asp Asp Asn Gly Glu Leu Asp Asn Ser Tyr			
20	25	30	
Leu Pro Arg Ile Val Leu Leu Met His Arg Trp Tyr Leu Ser Ser Thr			
35	40	45	
Glu Leu Ala Glu Lys Leu Leu Cys Met Tyr Arg Asn Ala Thr Gly Glu			
50	55	60	
Ser Cys Asn Glu Phe Arg Leu Lys Ile Cys Tyr Phe Met Arg Tyr Trp			
65	70	75	80
Ile Leu Lys Phe Pro Ala Glu Phe Asn Leu Asp Leu Gly Leu Ile Arg			
85	90	95	
Met Thr Glu Glu Phe Arg Glu Val Ala Ser Gln Leu Gly Tyr Glu Lys			
100	105	110	
His Val Ser Leu Ile Asp Ile Ser Ser Ile Pro Ser Tyr Asp Trp Met			
115	120	125	
Arg Arg Val Thr Gln Arg Lys Lys Val Ser Lys Lys Gly Lys Ala Cys			
130	135	140	
Leu Leu Phe Asp His Leu Glu Pro Ile Glu Leu Ala Glu His Leu Thr			
145	150	155	160
Phe Leu Glu His Lys Ser Phe Arg Arg Ile Ser Phe Thr Asp Tyr Gln			
165	170	175	
Ser Tyr Val Ile His Gly Cys Leu Glu Asn Asn Pro Thr Leu Glu Arg			
180	185	190	
Ser Ile Ala Leu Phe Asn Gly Ile Ser Lys Trp Val Gln Leu Met Val			
195	200	205	

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Leu Ser Lys Pro Thr Pro Gln Gln Arg Ala Glu Val Ile Thr Lys Phe
 210 215 220
 Ile Asn Val Ala Lys Lys Leu Leu Gln Leu Lys Asn Phe Asn Thr Leu
 225 230 235 240
 Met Ala Val Val Gly Gly Leu Ser His Ser Ser Ile Ser Arg Leu Lys
 245 250 255
 Glu Thr His Ser His Leu Ser Ser Glu Val Thr Lys Asn Trp Asn Glu
 260 265 270
 Met Thr Glu Leu Val Ser Ser Asn Gly Asn Tyr Cys Asn Tyr Arg Lys
 275 280 285
 Ala Phe Ala Asp Cys Asp Gly Phe Lys Ile Pro Ile Leu Gly Val His
 290 295 300
 Leu Lys Asp Leu Ile Ala Val His Val Ile Phe Pro Asp Trp Thr Glu
 305 310 315 320
 Glu Asn Lys Val Asn Ile Val Lys Met His Gln Leu Ser Val Thr Leu
 325 330 335
 Ser Glu Leu Val Ser Leu Gln Asn Ala Ser His His Leu Glu Pro Asn
 340 345 350
 Met Asp Leu Ile Asn Leu Leu Thr Leu Ser Leu Asp Leu Tyr His Thr
 355 360 365
 Glu Asp Asp Ile Tyr Lys Leu Ser Leu Val Leu Glu Pro Arg Asn Ser
 370 375 380
 Lys Ser Pro Thr Ser Pro Thr Pro Asn Lys Pro Val Val Pro Leu
 385 390 395 400
 Glu Trp Ala Leu Gly Val Met Pro Lys Pro Asp Pro Thr Val Ile Asn
 405 410 415
 Lys His Ile Arg Lys Leu Val Glu Ser Val Phe Arg Asn Tyr Asp His
 420 425 430
 Asp His Asp Gly Tyr Ile Ser Gln Glu Asp Phe Glu Ser Ile Ala Ala
 435 440 445
 Asn Phe Pro Phe Leu Asp Ser Phe Cys Val Leu Asp Lys Asp Gln Asp
 450 455 460
 Gly Leu Ile Ser Lys Asp Glu Met Met Ala Tyr Phe Leu Arg Ala Lys
 465 470 475 480
 Ser Gln Leu His Cys Lys Met Gly Pro Gly Phe Ile His Asn Phe Gln
 485 490 495
 Glu Met Thr Tyr Leu Lys Pro Thr Phe Cys Glu His Cys Ala Gly Phe
 500 505 510
 Leu Trp Gly Ile Ile Lys Gln Gly Tyr Lys Cys Lys Asp Cys Gly Ala
 515 520 525
 Asn Cys His Lys Gln Cys Lys Asp Leu Leu Val Leu Ala Cys Arg Arg
 530 535 540
 Phe Ala Arg Ala Pro Ser Leu Ser Ser Gly His Gly Ser Leu Pro Gly
 545 550 555 560
 Ser Pro Ser Leu Pro Pro Ala Gln Asp Glu Val Phe Glu Phe Pro Gly
 565 570 575
 Val Thr Ala Gly His Arg Asp Leu Asp Ser Arg Ala Ile Thr Leu
 580 585 590

<210> 8
 <211> 581
 <212> PRT
 <213> Rattus norvegicus

<400> 8
 Gly Ser Arg Ala Gly Pro Lys Gly Arg Leu Glu Ala Lys Ser Thr Asn

1	5	10	15
Ser Pro Leu Pro Ala Gln Pro Ser Leu Ala Gln Ile Thr Gln Phe Arg			
20	25	30	
Met Met Val Ser Leu Gly His Leu Ala Lys Gly Ala Ser Leu Asp Asp			
35	40	45	
Leu Ile Asp Ser Cys Ile Gln Ser Phe Asp Ala Asp Gly Asn Leu Cys			
50	55	60	
Arg Ser Asn Gln Leu Leu Gln Val Met Leu Thr Met His Arg Ile Ile			
65	70	75	80
Ile Ser Ser Ala Glu Leu Leu Gln Lys Leu Met Asn Leu Tyr Lys Asp			
85	90	95	
Ala Leu Glu Lys Asn Ser Pro Gly Ile Cys Leu Lys Ile Cys Tyr Phe			
100	105	110	
Val Arg Tyr Trp Ile Thr Glu Phe Trp Ile Met Phe Lys Met Asp Ala			
115	120	125	
Ser Leu Thr Ser Thr Met Glu Glu Phe Gln Asp Leu Val Lys Ala Asn			
130	135	140	
Gly Glu Glu Ser His Cys His Leu Ile Asp Thr Thr Gln Ile Asn Ser			
145	150	155	160
Arg Asp Trp Ser Arg Lys Leu Thr Gln Arg Ile Lys Ser Asn Thr Ser			
165	170	175	
Lys Lys Arg Lys Val Ser Leu Leu Phe Asp His Leu Glu Pro Glu Glu			
180	185	190	
Leu Ser Glu His Leu Thr Tyr Leu Glu Phe Lys Ser Phe Arg Arg Ile			
195	200	205	
Ser Phe Ser Asp Tyr Gln Asn Tyr Leu Val Asn Ser Cys Val Lys Glu			
210	215	220	
Asn Pro Thr Met Glu Arg Ser Ile Ala Leu Cys Asn Gly Ile Ser Gln			
225	230	235	240
Trp Val Gln Leu Met Val Leu Ser Arg Pro Thr Pro Gln Leu Arg Ala			
245	250	255	
Glu Val Phe Ile Lys Phe Ile His Val Ala Gln Lys Leu His Gln Leu			
260	265	270	
Gln Asn Phe Asn Thr Leu Met Ala Val Ile Gly Gly Leu Cys His Ser			
275	280	285	
Ser Ile Ser Arg Leu Lys Glu Thr Ser Ser His Val Pro His Glu Ile			
290	295	300	
Asn Lys Val Leu Gly Glu Met Thr Glu Leu Leu Ser Ser Cys Arg Asn			
305	310	315	320
Tyr Asp Asn Tyr Arg Arg Ala Tyr Gly Glu Cys Thr His Phe Lys Ile			
325	330	335	
Pro Ile Leu Gly Val His Leu Lys Asp Leu Ile Ser Leu Tyr Glu Ala			
340	345	350	
Met Pro Asp Tyr Leu Glu Asp Gly Lys Val Asn Val Gln Lys Leu Leu			
355	360	365	
Ala Leu Tyr Asn His Ile Asn Glu Leu Val Gln Leu Gln Asp Val Ala			
370	375	380	
Pro Pro Leu Asp Ala Asn Lys Asp Leu Val His Leu Leu Thr Leu Ser			
385	390	395	400
Leu Asp Leu Tyr Tyr Glu Asp Glu Ile Tyr Glu Leu Ser Tyr Ala			
405	410	415	
Arg Glu Pro Arg Asn His Arg Ala Pro Pro Leu Thr Pro Ser Lys Pro			
420	425	430	
Pro Val Val Val Asp Trp Ala Ser Gly Val Ser Pro Lys Pro Asp Pro			
435	440	445	
Lys Thr Ile Ser Lys His Val Gln Arg Met Val Asp Ser Val Phe Lys			
450	455	460	

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Asn Tyr Asp Leu Asp Gln Asp Gly Tyr Ile Ser Gln Glu Glu Phe Glu
465 470 475 480
Lys Ile Ala Ala Ser Phe Pro Phe Ser Phe Cys Val Met Asp Lys Asp
485 490 495
Arg Glu Gly Leu Ile Ser Arg Asp Glu Ile Thr Ala Tyr Phe Met Arg
500 505 510
Ala Ser Ser Ile Tyr Ser Lys Leu Gly Leu Gly Phe Pro His Asn Phe
515 520 525
Gln Glu Thr Thr Tyr Leu Lys Pro Thr Phe Cys Asp Asn Cys Ala Gly
530 535 540
Phe Leu Trp Gly Val Ile Lys Gln Gly Tyr Arg Cys Lys Asp Cys Gly
545 550 555 560
Met Asn Cys His Lys Gln Cys Lys Asp Leu Val Val Phe Glu Cys Lys
565 570 575
Lys Arg Ser Lys Ser
580